

Equivalent fractions

Pearson Edexcel GCSE Mathematics 1MA1

Foundation and Higher • L006

Number and proportion • Review v0.9

The goal and the evidence

Connect & Check → Share → Present → Apply → Recall & Review

Explain equivalence and convert fraction forms.

Compare fractions exactly using the same whole.

Starting-point diagnostic

R1–R3 • Attempt without notes

HCF of 12 and 18

$$4 \times 5 + 3$$

Compare 0.6 and 0.56.

Equivalent fractions

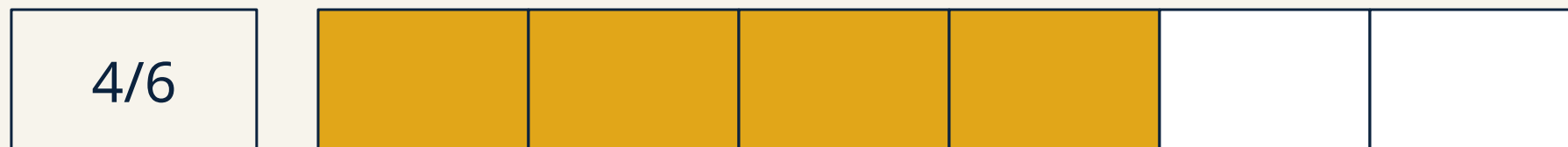
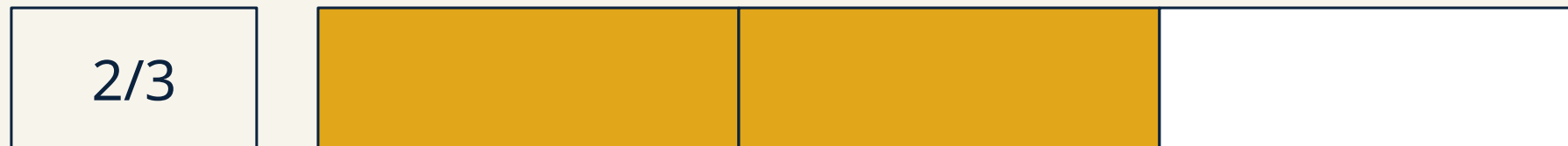
$$\frac{2}{3} = \frac{4}{6}$$

Multiply top and bottom by 2.

Your turn: $\frac{3}{5} = ?/20$

One whole, different partitions

Explain the representation



Same whole; same shaded amount

Simplifying fractions

$$18/24 = 3/4$$

Divide both entries by 6.

Your turn: simplify 15/25.

Mixed to improper

$$2 \frac{3}{4} = \frac{8}{4} + \frac{3}{4} = \frac{11}{4}$$

Your turn: $3 \frac{2}{5}$

How many fifths in three wholes?

Compare equal units

$$3/4 = 6/8 > 5/8$$

$$14/5 = 2 \frac{4}{5}$$

Use the same whole.

SAME VALUE, SAME WHOLE

Scale numerator and denominator together.

Use equal units before comparing.

Diagnostic pause

Choose and explain before moving on.

Which equals $\frac{2}{3}$?

A $\frac{3}{4}$ B $\frac{4}{6}$ C $\frac{2}{6}$

Careful variation

A1 • Explain your decisions

Complete $1/2 = \underline{\hspace{1cm}}/6 = \underline{\hspace{1cm}}/10$. Simplify $6/10$ and $9/15$.

Show your method and check the result.

Independent application

A2 • Without prompts

Convert $2 \frac{5}{6}$ to an improper fraction and $\frac{19}{4}$ to a mixed number. Compare $\frac{2}{3}$ and $\frac{3}{4}$.

Show your method and check the result.

Use the method in context

A3 • Explain your decisions

A jug contains $1 \frac{3}{4}$ litres. A bottle contains $\frac{7}{4}$ litres. Do they contain equal amounts? Explain.

Show your method and check the result.

Intentional practice feedback

Read after attempting A3

Yes: $1 \frac{3}{4} = \frac{4}{4} + \frac{3}{4} = \frac{7}{4}$ litres.

Check the interpretation as well as the arithmetic.

A claim to test

C1 • Explain your decisions

A learner says $\frac{3}{5} = \frac{4}{6}$ because both entries increased by 1. Disprove the claim exactly.

Show your method and check the result.

Deepen the reasoning

C2 • Explain your decisions

Find a fraction strictly between $\frac{1}{2}$ and $\frac{2}{3}$. Prove it is between them.

Show your method and check the result.

Retrieval without notes

Q1–Q6 • Use full prompts in your workbook

Q1–Q3

12/18 simplified

2 1/4 → improper

11/5 → mixed

Q4–Q6

$\frac{3}{4} = \frac{?}{20}$

HCF(18,30)

$18 \div 3 \times 2$

Independent exit evidence

P1 • 2 marks • Without notes

Simplify $21/28$. State the common factor used. [2]

Show working. Teacher review follows.

Independent exit evidence

P2 • 2 marks • Without notes

Which is larger, $\frac{5}{6}$ or $\frac{7}{9}$? Show an exact comparison. [2]

Show working. Teacher review follows.

Feedback and next steps

P3 • Completion is not mastery

Name one decision you can now explain.

Choose a fresh question and a delayed check.

Before the next lesson

L007: Fraction operations

Complete F1 tomorrow without notes.

Read and attempt F2; bring one question.

Optional stretch

Simplify $42/70$ and give two different fractions equivalent to it.

Show a method. Explain a check or counterexample.

Optional deep challenge

A fraction is equivalent to $\frac{5}{8}$ and its numerator is 35. Find its denominator and justify.

Show a method. Explain a check or counterexample.

L006 Recall & Review

Fractions and equivalent forms



Fresh evidence: prove the objective

Solve a new question without prompts. Explain one check, then correct one error in your working.

Objective: Explain equivalence, simplify fractions, convert mixed and improper forms and compare fractions exactly.

Write the next practice step before you leave. It must test the method again, not simply copy today's example.

Feedback language

Use the full phrases before the abbreviations.

What Went Well (WWW)

I selected an efficient numerical method, showed the key steps clearly and checked the sign, size or accuracy of my answer.

Identify the mathematical method, representation, reasoning or check that improved.

Even Better If (EBI)

I will make the place-value, sign or operation decision explicit and use estimation or an inverse calculation to check a fresh question.

Set one precise next-step action and test it on a fresh question.

Extension route

Choose this route only after the core evidence is secure.

Stretch

Simplify $42/70$ and give two different fractions equivalent to it.

Deep challenge

A fraction is equivalent to $5/8$ and its numerator is 35. Find its denominator and justify.

Explain your reasoning clearly enough that another learner could check it.